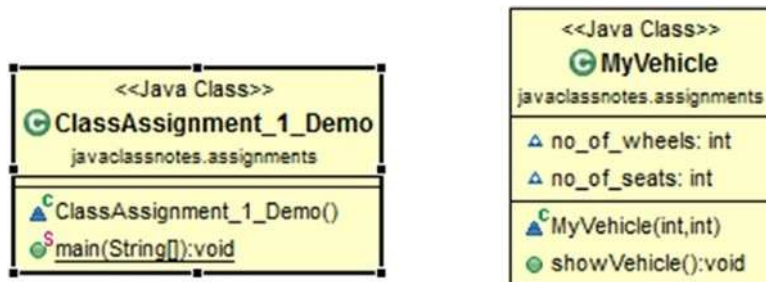


OOP's Assignments

Assignment 1

Create a class `Vehicle`. The class should have two fields-`no_of_seats` and `no_of_wheels`. Create two Objects-`Motorcycle` and `Car` for this class. Your output should show the descriptions for `Car` and `Motorcycle`.

Uml class diagram:

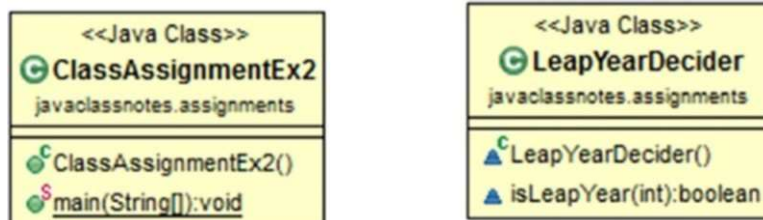


Assignment 2

Create a class with a method. The method has to decide whether a given year is a leap year or not.

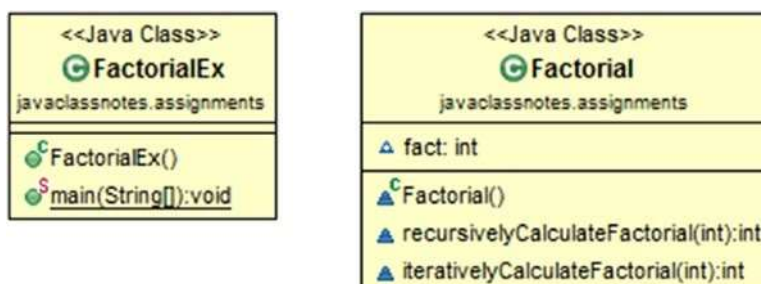
Note- A year is a leap year if:

- It has an extra day i.e. 366 instead of 365.
- It occurs in every 4 year e.g. 2008, 2012 are leap years.
- For every 100 years a special rule applies-1900 is not a leap year but 2000 is a leap year. In those cases, we need to check whether it is divisible by 400 or not.



Assignment 3

Create a class with two functions-one recursive and one non recursive. Either of these function should be capable of calculating the factorial of a number

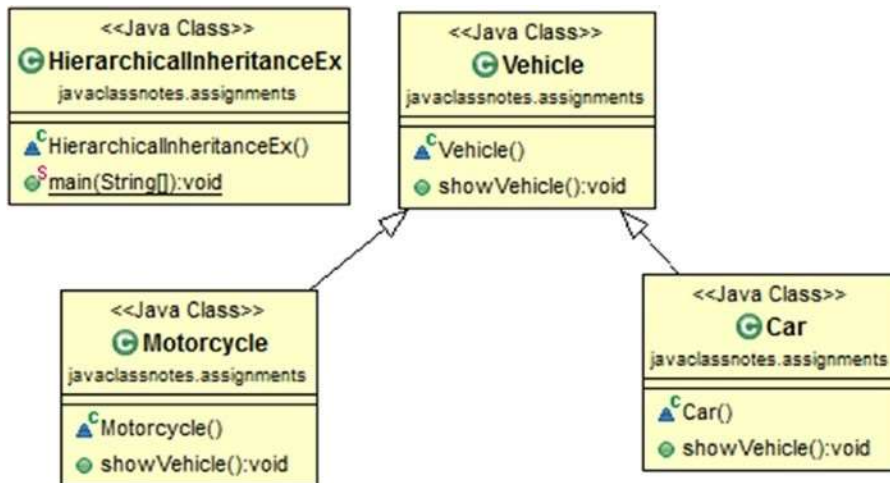


OOP's Assignments

Inheritance

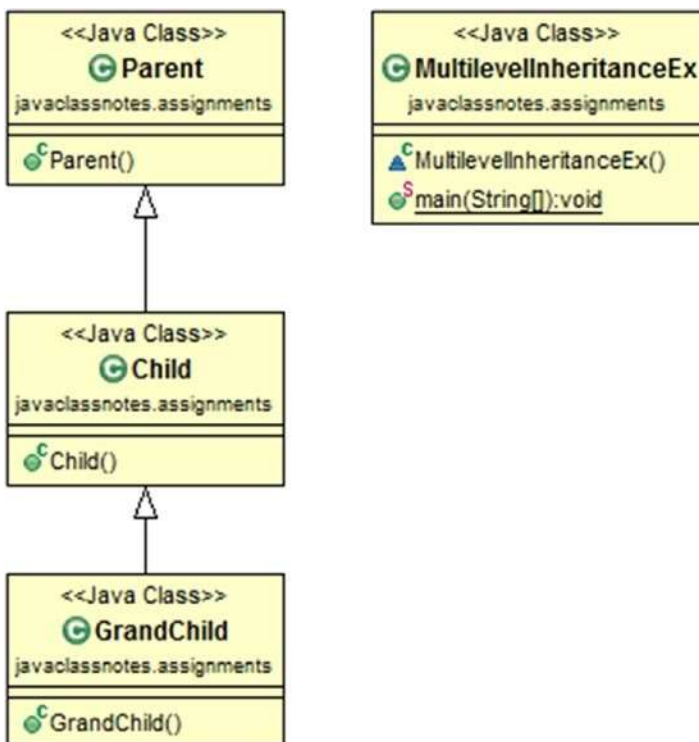
Assignment 1

Write a simple program to implement hierarchical inheritance.



Assignment 2

Write a simple program to implement multilevel inheritance. We could write the program like the above program (See our code structure in the chapter on Inheritance). Just for a variety, we are using only constructors here. If you want to see the concrete methods implementation, just uncomment the codes in the below program



OOP's Assignments

Use of static keyword

Assignment

Suppose you have formed a cricket team. Now your team is going to play against an opponent team. You must be aware of the fact that which team will bat (or bowl) first will be decided through the toss and you need to send your captain for that. So, at first, you must elect a captain. At the same time, you must be aware that you can select one and only one captain. So, if you do not have any such captain, you will select one and send him for toss. Otherwise, you simply send the already nominated captain for the toss. Can you design this?

